WHAT IS CLAIMED IS:

SUB A1

1. A flexible thin layer open liquid state electrochemical cell comprising a first layer of insoluble negative pole, a second layer of insoluble positive pole and a third layer of aqueous electrolyte, said third layer being disposed between said first and second layers and including:

(a) a deliquescent material for keeping the open cell wet at all times;

(b) an electroactive soluble material for obtaining required ionic conductivity; and

(c) a watersoluble polymer for obtaining a required viscosity for adhering said first and second layers to said first layer.

2. A cell as in claim 1, wherein said first layer of insoluble positive pole includes manganese-dioxide powder and said second layer of insoluble negative pole includes zinc powder.

3. A cell as in claim 2, wherein said electroactive soluble material is selected from the group consisting of zinc-chloride, zinc-bromide, zinc-fluoride and potassium-hydroxide.

4. A cell as in claim 1, wherein said first layer of insoluble negative pole includes silver-oxide powder and said second layer of insoluble positive pole includes zinc powder.

5. A cell as in claim 4, wherein said electroactive soluble material is potassium-hydroxide.

6. A cell as in claim 1, wherein said first layer of insoluble negative pole includes cadmium powder and said second layer of insoluble positive pole includes nickel-oxide powder.

7. A cell as in claim 6, wherein said electroactive soluble material is potassium-hydroxide.

8. A cell as in claim 1, wherein said first layer of insoluble negative pole includes iron powder and said second layer of insoluble positive pole includes nickel-oxide powder.

9. A cell as in claim 8, wherein said electroactive soluble material is potassium-hydroxide.

10. A cell as in claim 1, wherein said first layer of insoluble negative pole and said second layer of insoluble positive pole include lead-oxide powder, the cell is charged by voltage applied to said poles.

11. A cell as in claim 10, wherein said electroactive soluble material is sulfuric-acid.

12. A cell as in claim 1, wherein said deliquescent material and said electroactive soluble material are the same material.

13. A cell as in claim 12, wherein said same material is selected from the group consisting of zinc-chloride, zinc-bromide, zinc-fluoride and potassium-hydroxide.

14. A cell as in claim 1, wherein said deliquescent material is selected from the group consisting of calcium-chloride, calcium-bromide, potassium-biphosphate and potassium-acetate.

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15. A cell as in claim 1, wherein said watersoluble polymer ~~is selected~~ from the group consisting of polyvinylalcohol, ~~poliacrylamide~~, polyacrylic acid, polyvinylpyrolidone, ~~polyethylenoxide~~, agar, agarose, starch, ~~hydroxyethylcellulose~~ and combinations and copolymers thereof.

16. A cell as in claim 1, wherein said watersoluble polymer and said deliquescent material are the same material.

17. A cell as in claim 1, wherein said same material is selected from the group consisting of dextrane, dextranesulfate and combinations and copolymers thereof.

18. A cell as in claim 1, further comprising terminals, each of said terminals being in electrical contact with one of said first and second pole layers.

19. A cell as in claim 18, wherein said terminal are made of graphite.

20. A cell as in claim 1, further comprising at least one conductive layer improving the electronic conductivity of at least one of said first and second pole layers.

21. A cell as in claim 20, wherein said conductive layer is selected from the group consisting of a graphite paper and carbon cloth.

22. A cell as in claim 1, further comprising an external layer selected from the group consisting of an adhesive backing layer, a lamina protective layer and a combination of adhesive backing layer and a lamina protective layer.

23. An electrical power supply comprising two cells as in claim 1 being connected in a head to tail orientation in a bipolar-connection.

24. An electrical power supply as in claim 23, wherein said connection is by an adhesive selected from the group consisting of a conductive double sided adhesive tape and a conductive glue layer.

25. An electrical power supply as in claim 24, wherein said conductive double sided adhesive tape and said conductive glue layer are applied by a printing technology.

26. A method of making a flexible thin layer open liquid state electrochemical cell comprising the steps of:

(a) wetting a porous substance having a first side and a second side with an aqueous solution containing a deliquescent material, an electroactive soluble material and a watersoluble polymer;

(b) applying onto said first side a layer of negative pole; and

(c) applying onto said second side a layer of positive pole.

27. A method as in claim 26, wherein said wetting is by a dipping technology.

28. A method as in claim 26, wherein said wetting is by a printing technology.

29. A method as in claim 26, wherein said layers of negative and positive poles include active insoluble powder materials mixed with said deliquescent material, electroactive soluble material and watersoluble polymer.

30. A method as in claim 26, wherein said application of said layers of negative and positive poles is by a printing technology.